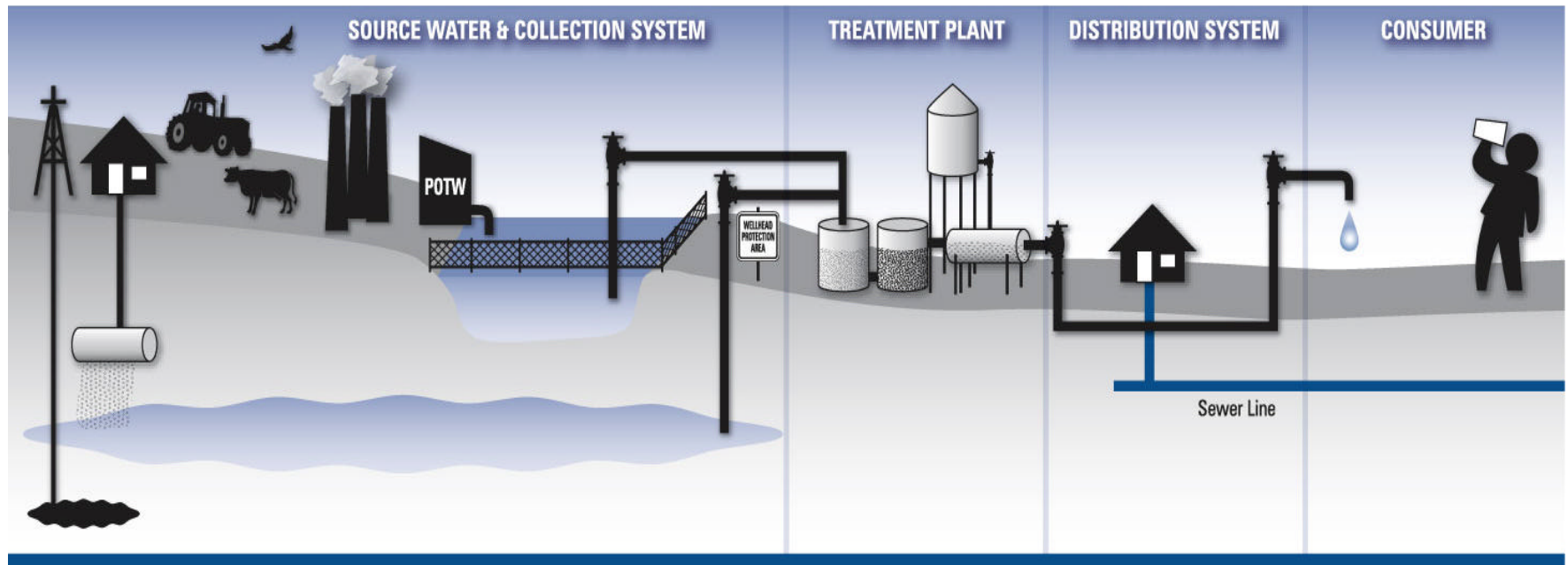


Using GIS Data & Tools to Support Source Water Protection Targeting Resources Through Program Integration



**William R. Diamond, Director, EPA Drinking Water Protection
Division, Office of Ground Water and Drinking Water
National Source Water Protection Conference, Session A3
June 2, 2003, 1:30 – 3:00 p.m.
Washington, D.C.**

How Does GIS Support EPA SWP Role?

- Program Integration – Builds CWA/SDWA program integration through common geographic reference point
- Targeting of Resources – Facilitates priority use of federal resources through co-location of regulated entities in SWAs
- Collaboration with States and Locals – Provides geographic basis to pursue joint initiatives with States and locals

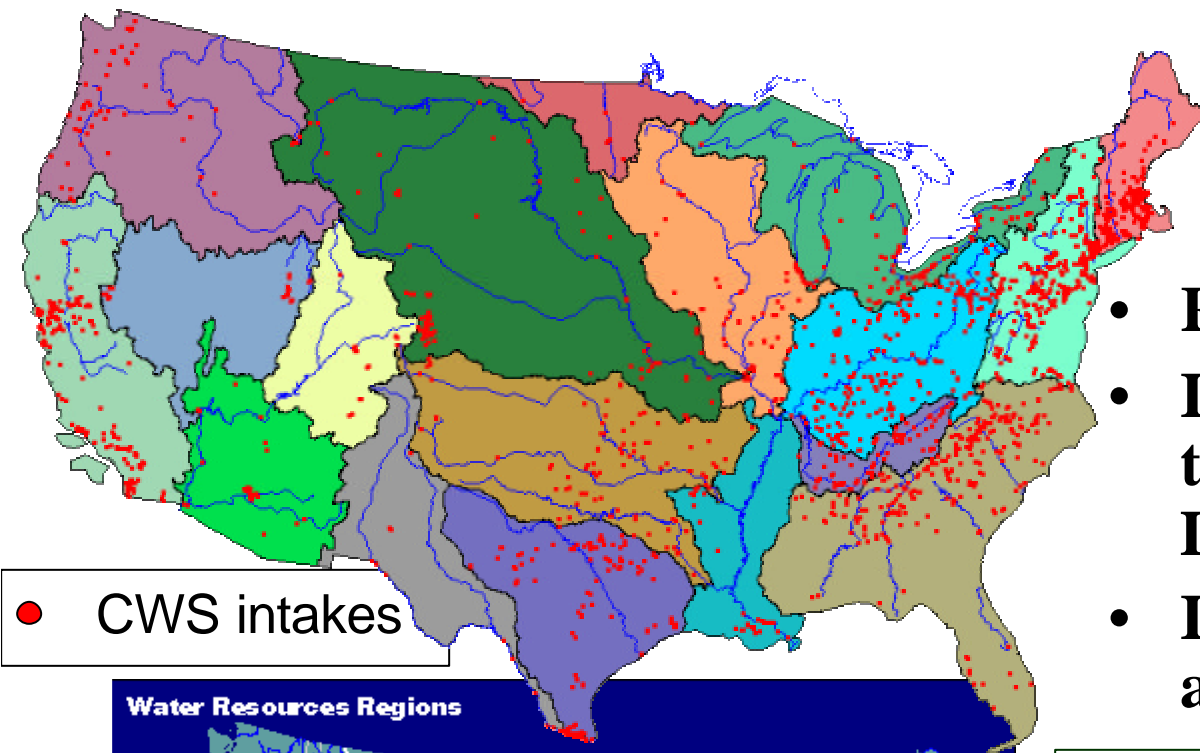
What GIS Data and Tools Are Available to EPA?

- Office of Water GIS Platform -- Water programs have access to common GIS data and apps through WATERS
- Access to Other EPA Data – Other GIS coverages and program data available from Envirofacts
- State Locational Data In SDWIS – States are source of well/intake lat/long and SWA data, linked to PWS inventory
- Intake Data Georeferenced to NHD – All OW data indexed to USGS stream reach network.

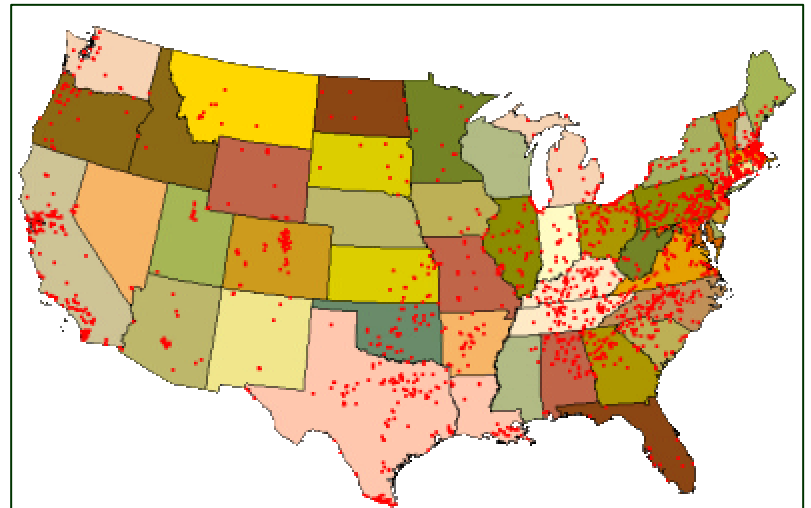
CWS

Intakes

- Roughly 7000 intakes
- Initial locations verified to 6 seconds using DeLORME Data
- Includes source and associated river names

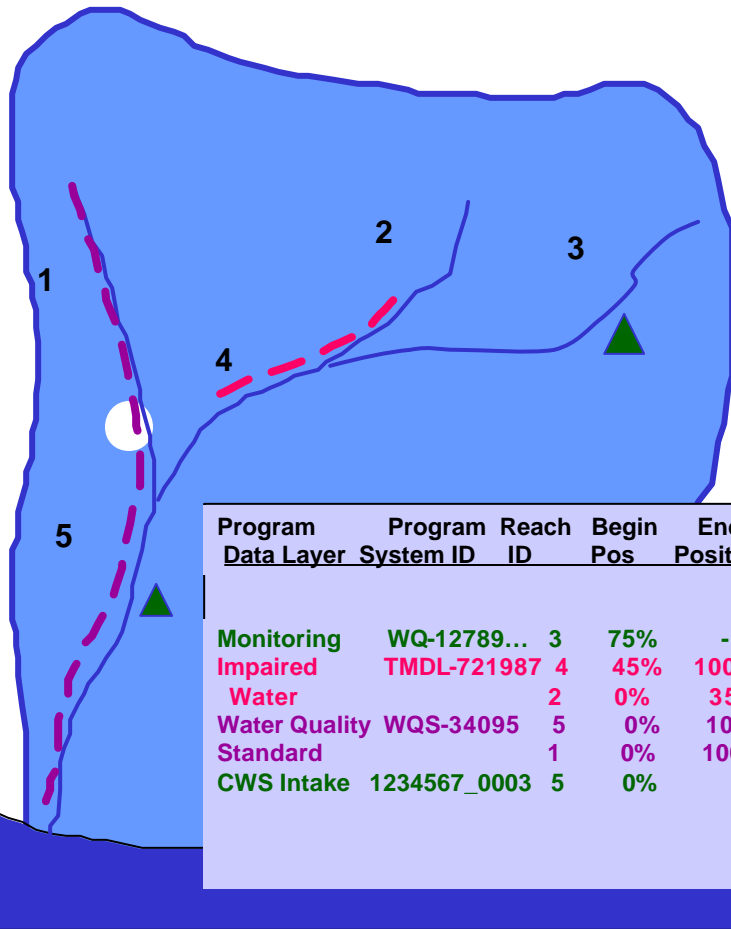


Water Resources Regions



Indexing to National Hydrography Dataset (NHD)

Watershed 02050701



Program Data Layer	Program System ID	Reach ID	Begin Pos	End Position
Monitoring	WQ-12789...	3	75%	-
Impaired	TMDL-721987	4	45%	100%
Water		2	0%	35%
Water Quality	WQS-34095	5	0%	100%
Standard		1	0%	100%
CWS Intake	1234567_0003	5	0%	

Rich cartographic feature content for making maps

A stream addressing system for
linking water-related information
to the national drainage network

Over 2,200 8-digit HUCs

3 million linear reaches

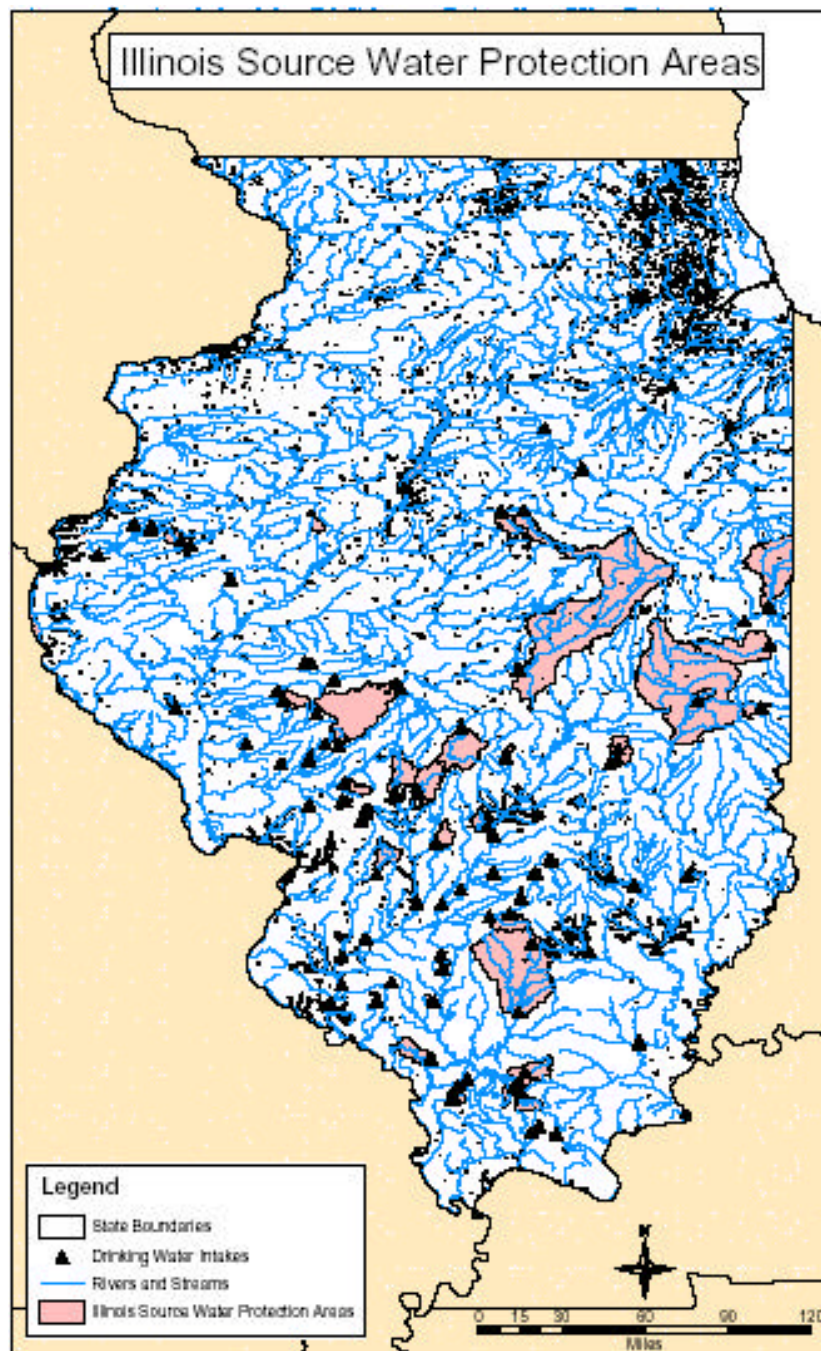
Upstream/downstream modeling along the drainage
network

Data available at <http://nhd.usgs.gov>

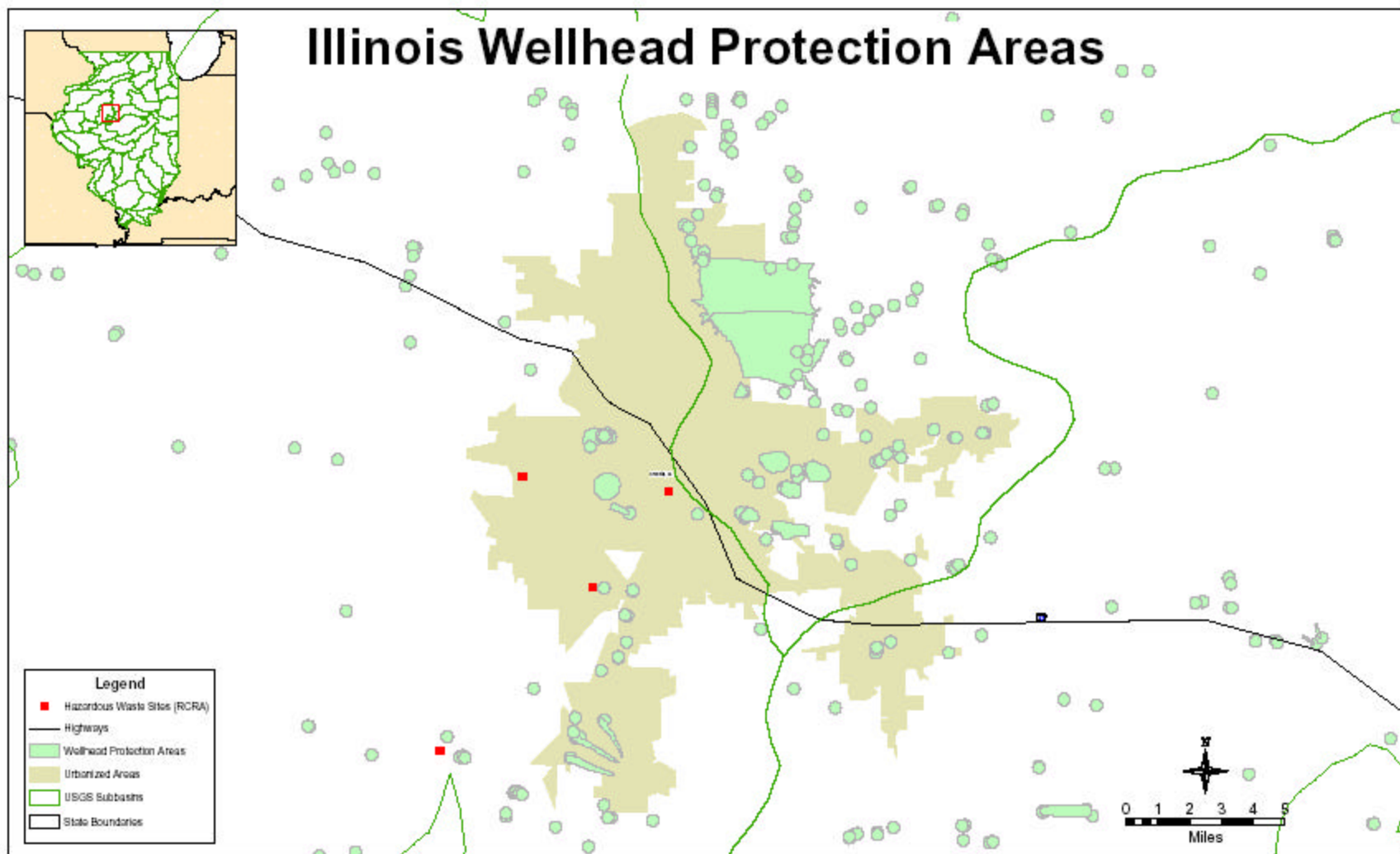
How are We Using GIS

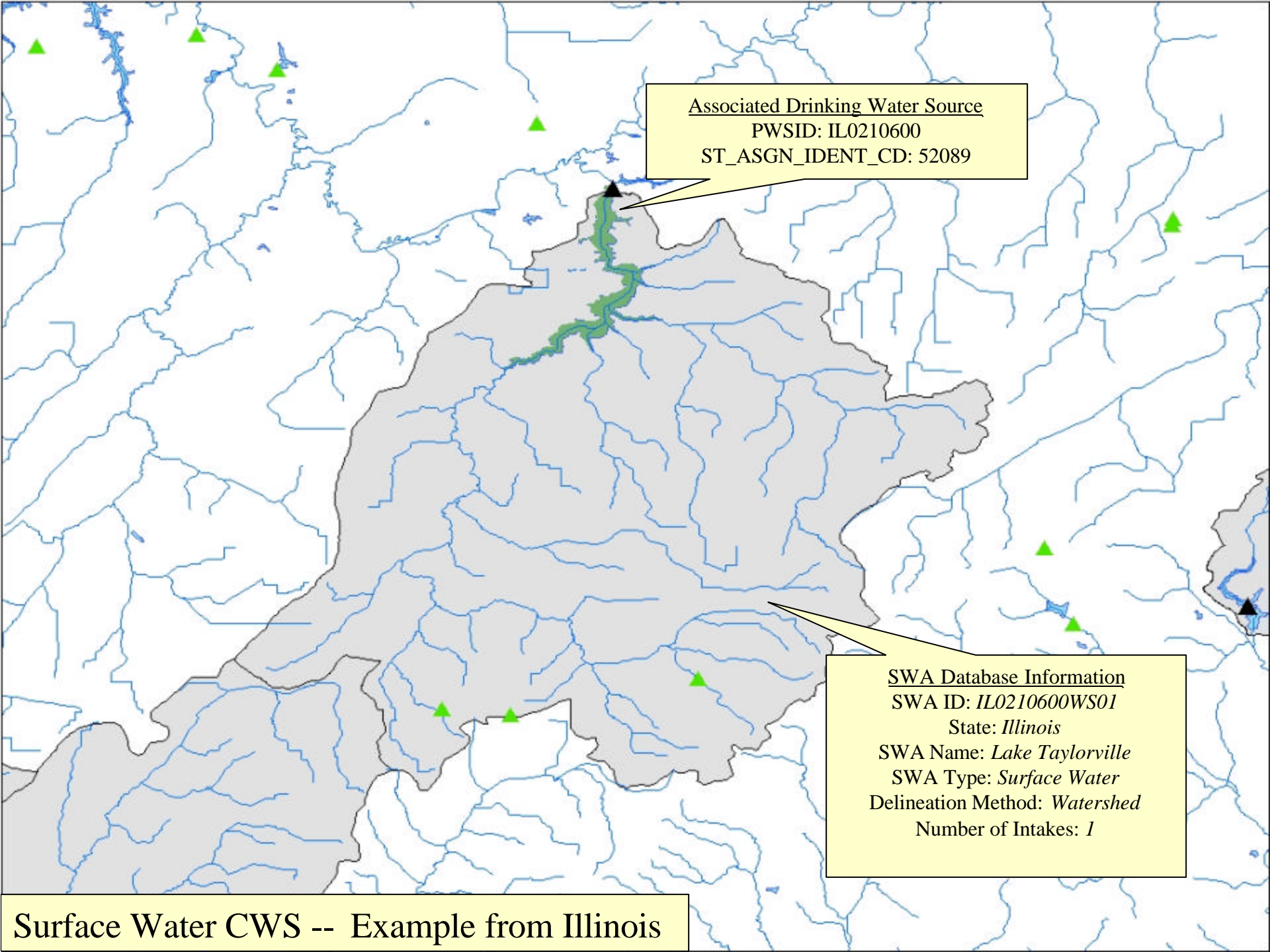
An Example

Illinois Source Water Protection Areas



Illinois Wellhead Protection Areas

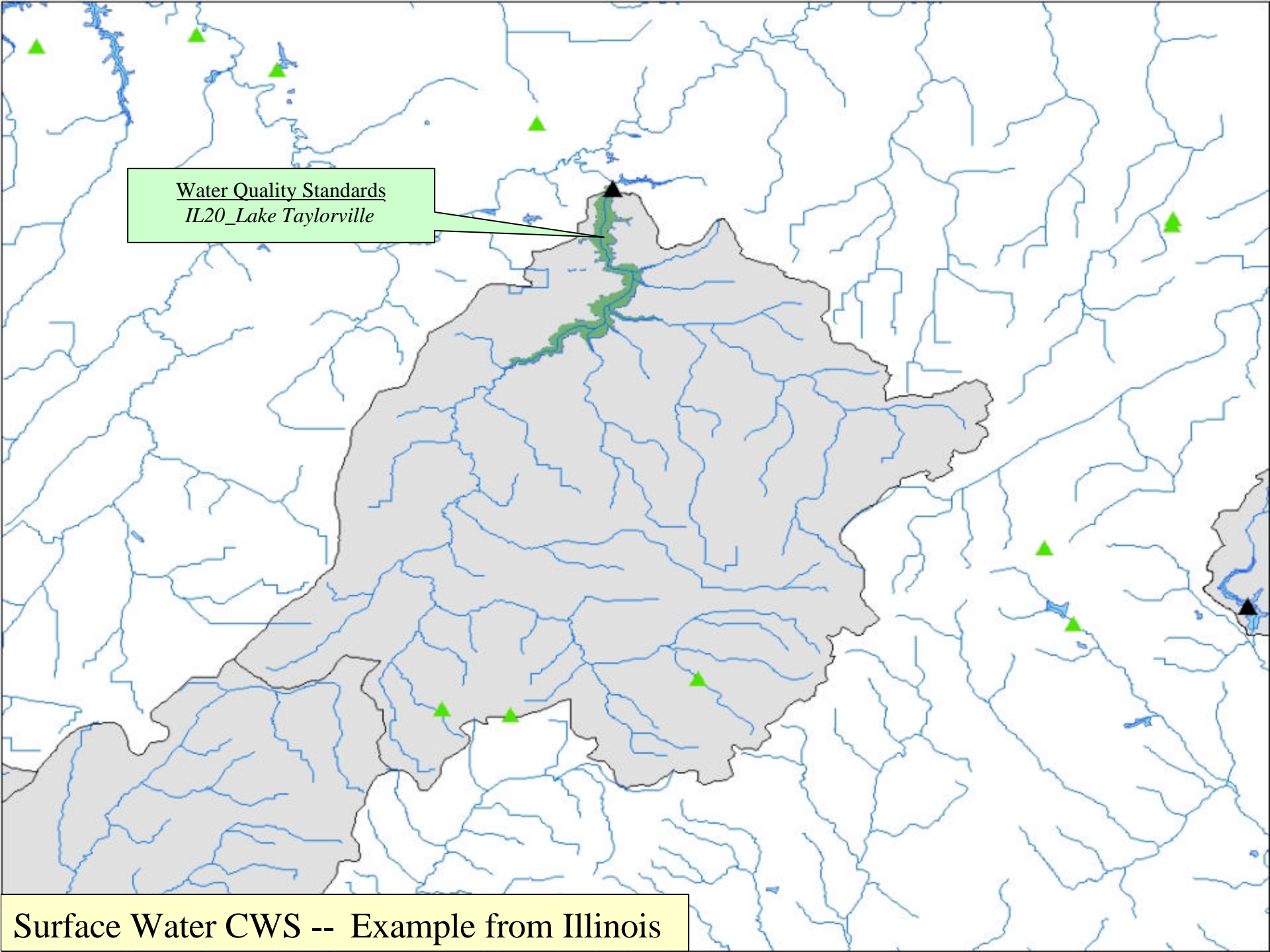




Associated Drinking Water Source
PWSID: IL0210600
ST_ASGN_IDENT_CD: 52089

SWA Database Information
SWA ID: IL0210600WS01
State: *Illinois*
SWA Name: *Lake Taylorville*
SWA Type: *Surface Water*
Delineation Method: *Watershed*
Number of Intakes: *1*

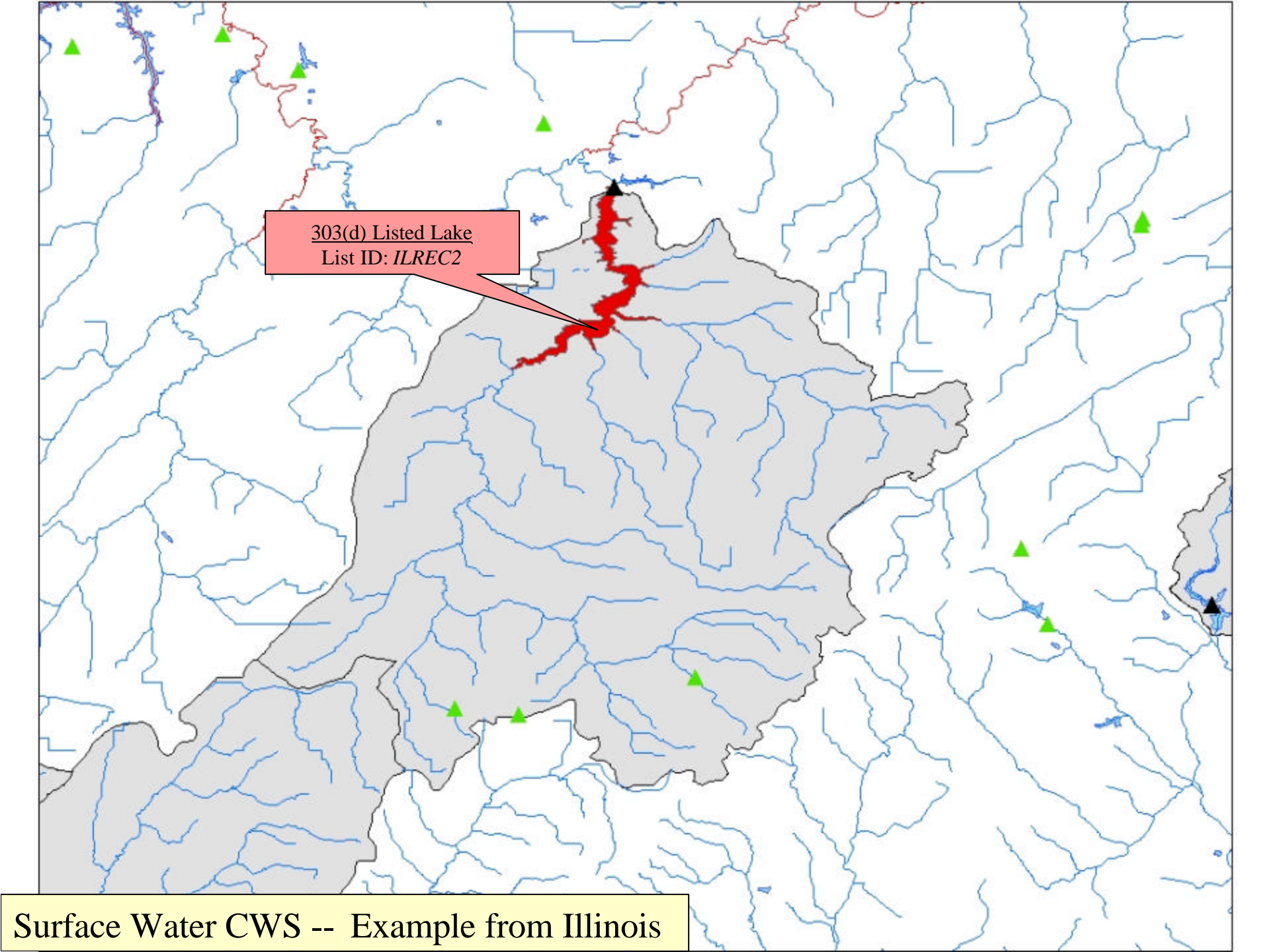
Surface Water CWS -- Example from Illinois



The map displays the state of Illinois with its major river networks shown in blue. A large, irregularly shaped area in the central part of the state is shaded in light gray, representing a specific watershed or region of interest. Within this gray-shaded area, a prominent river system is highlighted in a darker green color. A black triangle is positioned at the northernmost point of this green-highlighted river system. A light green callout box with a black border points from the text to this black triangle. Several green triangles are scattered across the map, primarily in the northern and eastern portions, likely indicating other monitoring or standard locations. The background is white, and the overall map is framed by a thin black border.

Water Quality Standards
IL20_Lake Taylorville

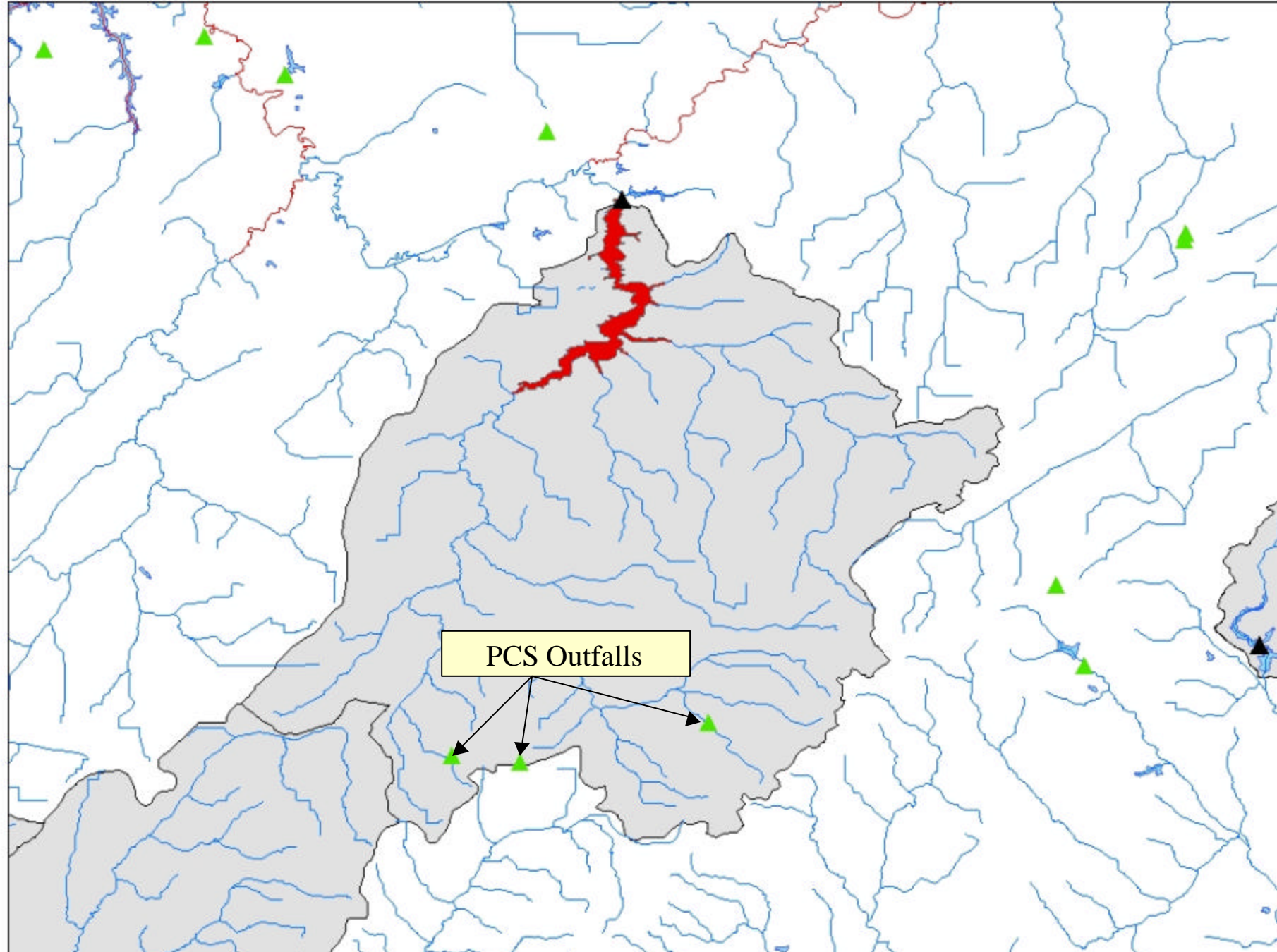
Surface Water CWS -- Example from Illinois



A map of Illinois with a large watershed area shaded in light gray. A specific lake within this watershed is highlighted with a thick red line. A red callout box points to this lake. The map also shows a network of blue lines representing rivers and streams, and several green triangles are scattered across the state. A black triangle is located at the northern end of the red lake. The text '303(d) Listed Lake' and 'List ID: ILREC2' is inside the red callout box.

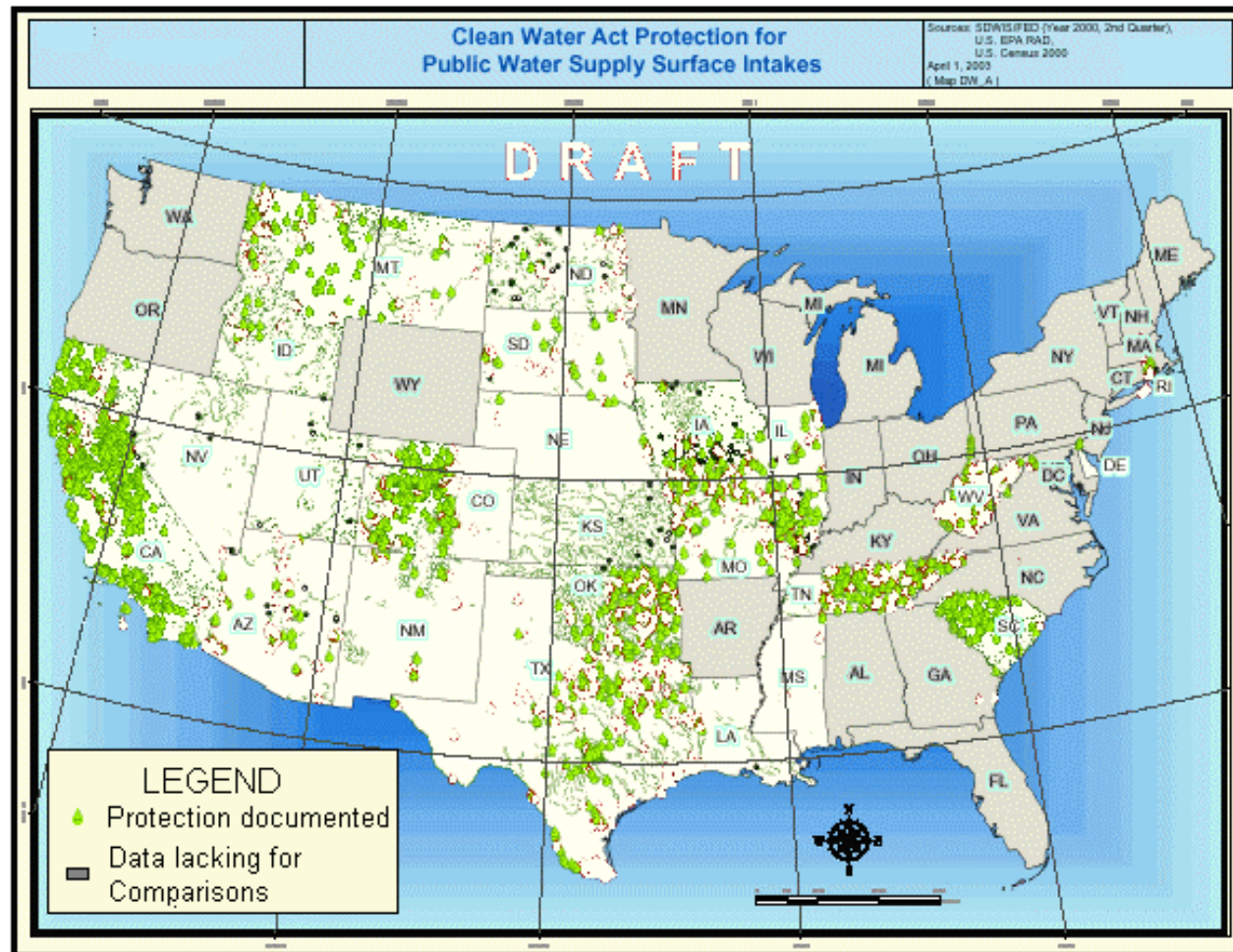
303(d) Listed Lake
List ID: *ILREC2*

Surface Water CWS -- Example from Illinois



Surface Water CWS -- Example from Illinois

Preliminary national map documenting coordination of CWA and SDWA programs



How Can We Work Together to Improve GIS Use?

- Share GIS Data
- Help EPA Improve Data Used in GIS Aps
- Build GIS Capability
- Collaborate on Program Analyses

Any Questions??

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- WATERS
(www.epa.gov/waters)

